

## A color phase of *Sitilias caroliniana* and some analogous variations in other genera

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*Sitilias caroliniana* (Walt.) Raf.,<sup>1</sup> is a common weed of unknown origin,<sup>2</sup> belonging to the Cichoriaceae, growing along roads and railroads and in waste places in all the southeastern states, and blooming mostly in May.<sup>3</sup> It looks much like a dandelion both in flower and in fruit, except that it is taller, with a branched stem instead of a scape, and its flowers are usually lemon-yellow instead of golden yellow. The flowers open on sunny mornings, and face the sun. The descriptions call for a brownish pappus (whence one of its former generic names), but in my experience it does not differ noticeably from that of *Taraxacum*.

Available descriptions mention no variation in color of flowers, but in and around Tuscaloosa, Alabama, many of the plants, perhaps as many as one-tenth in some areas, have the corollas, stamens, etc., cream-colored instead of yellow, though apparently identical in all other particulars, and having exactly the same habitat and time of flowering. This is not a mere fluctuation, as in many species whose flowers range all the way from some definite color to white, for no intermediate forms have ever been detected. And it can hardly be called an albino, for

<sup>1</sup> This was first described in 1788 by Thomas Walter, who referred it to the Old World genus *Leontodon*. Michaux in 1803, Pursh in 1814, and Nuttall in 1818, referred it incorrectly to three other genera, and DeCandolle in 1838 made it the type of a new genus, *Pyrrhopappus*, overlooking or ignoring the fact that Rafinesque had "beaten him to it" about two years before. DeCandolle's name was accepted for half a century, and then Rafinesque's name was unearthed and substituted for it by the nomenclature reformers of the latter part of the 19th century.

The conventional methods of citing synonymy, as typified for this species in Mohr's *Plant Life of Alabama* (Contr. U.S. Nat. Herb. 6: 754. 1901), do not make it plain why the generic names used by Walter, Michaux, Pursh and Nuttall do not take precedence over Rafinesque's. There should be some indication that the plant was incorrectly referred to those genera.

<sup>2</sup> For notes on native weeds see Bull. Torrey Bot. Club 35: 347-360. 1908; 37: 117-120. 1910; Torreya 31: 1, 48. 1931.

<sup>3</sup> In northern Florida a few of the plants may bloom as early as February, but not many before April.

the flowers are never pure white, and it is much more abundant than albinos usually are, though rather limited geographically. I do not recall ever seeing it outside of Alabama, or more than 100 miles from Tuscaloosa, though I have known it for over twenty years.

To determine the exact status of the cream-colored form would require breeding experiments, or perhaps an examination of chromosomes, for which I have no facilities. At present I cannot say whether it breeds true indefinitely, or is continually being derived as a mutant from the common yellow form (which always grows near by). If it occurred throughout the range of the species, or else only rarely, or if it were connected with the type by intermediate forms, it would scarcely be necessary to mention it except by amending the description of the species to include the variation in color.

But as this may be a nascent species of recent origin, which may hereafter become more widespread, it seems desirable to give it a name, to focus attention upon it momentarily at least. On account of current bibliographic practices, which attach much more importance to communications embodying new names than to others of equal length, this note might soon be forgotten if the cream-colored form were left unnamed. I therefore propose to call it *Sitilias Caroliniana, forma alabamensis*.<sup>4</sup> Precedent for naming such a slight variation is afforded by several cases of similar color phases, not correlated with differences in environment or time of flowering, which have been given names in the past.

For example, *Sarracenia purpurea heterophylla* Eaton, with greenish foliage and flowers, *Aquilegia canadensis flaviflora* (Tenney) Britton, with yellow flowers, *Argemone alba* Lestib. (*A. Georgiana* Croom), which seems to be only an albino or white form of *A. mexicana* L., and many horticultural varieties, some of which may have originated in the wild state. Several species of *Ilex*, both deciduous and evergreen, with normally red berries, have occasional yellow-fruited forms, which have been given subspecific names for that reason.<sup>5</sup>

<sup>4</sup> Specimens which represent the type were collected in the eastern part of Tuscaloosa, near the University, at 8 A.M., May 20, 1933.

<sup>5</sup> One such form, of *Ilex myrtifolia* from Mitchell County, Georgia, was described by me in *Torreyia* 2: 43-44 (March, 1902), with references to two

Our two common jimson weeds (*Datura Stramonium* and *D. Tatula*), barnyard weeds of probable South American origin, have essentially the same habitat but usually occupy different areas. They differ little except in color of stem and corolla, but these differences seem to be constant, and they have been regarded as distinct by most authors ever since the time of Linnaeus.<sup>6</sup>

There are several other weeds that exhibit marked variations not correlated with environment, but in form rather than in color, and a few of those will be mentioned here, to call attention to the problem and stimulate further investigation. The prickly lettuce, a weed not mentioned in our older manuals, and probably of recent introduction, is now scattered over the upper South and some additional territory, especially along railroads. (It is not listed in Mohr's Plant Life of Alabama, 1901, but grows now in Tuscaloosa, and various other places in the state.) It has been variously called *Lactuca virosa*, *L. Serriola*, and *L. Scariola* (these names all given by Linnaeus at different times). The commoner form has leaves rather deeply pinnately lobed. But another form, with leaves entire or nearly so (sometimes distinguished as var. *integrata*), has exactly the same habitat and perhaps a similar distribution, though the two are not always found together. In this case, as in *Datura*, we may possibly have two distinct species introduced at different times, though the difference is so trivial that one might expect hybrids or intermediate forms. Such, however, do not seem to be on record. Both have the leaves twisted into vertical planes, and they sometimes show a tendency to point north and south, as has been observed before.

In the vicinity of Tallahassee, Florida, and probably elsewhere in that latitude, there are two species of pokeweed, *Phytolacca decandra* L. and *P. rigida* Small, the former with drooping racemes, and the latter with racemes erect or nearly

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other cases in the same genus, but I did not think it worth while to give it a name. About 23 years later, S. F. Blake, quite oblivious of my contribution, described the same thing from Appling County, Georgia, in a magazine which circulates much less among students of southern plants (*Rhodora* 26: 231. Feb. 1925), as forma *Loweii*, after the collector.

<sup>6</sup> This problem was discussed critically over 100 years ago by Dr. William Tully, of Middletown, Conn. (*Am. Jour. Sci.* 6: 254-258. 1823.)

so, even in fruit. There is not much other difference, except that *P. rigida* tends to be smaller and with narrower leaves, as if adapted to poorer soils. They both grow in waste places, sometimes together, but the former ranges far to the northward, and may have been in Indian clearings before the time of Columbus, while the latter is chiefly confined to Florida, and escaped attention until it was described by Small in 1905.<sup>7</sup> Whether it had been there from time immemorial, or was a recent introduction from some unknown foreign source, or a recent mutation from *P. decandra*, we do not know, and perhaps never will know. This is another problem that deserves the attention of geneticists; and readers may recall similar cases in their own neighborhoods.

Some other closely related pairs of weeds, that often grow in the same habitat, and bloom at the same time, without apparent intergradation or hybridization, are *Acalypha virginica* and *A. gracilens*, *Plantago major* and *P. Rugelii*, and *Specularia perfoliata* and *S. biflora*. And there may be others in large and more or less weedy genera like *Panicum*, *Paspalum*, *Cyperus*, *Euphorbia* (and its segregates), *Oenothera*, *Solidago*, and *Aster*.

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<sup>7</sup> Bull. N. Y. Bot. Gard. 3: 422-423, April, 1905. (Type from near Miami.)